CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.02/KRIDL/CSR-11/186e/CEMENT/2016-17 Date: 07.11.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
*AGENCY	:	**Technical Manager (West),** KRIDL, Bangalore.
*NAME OF THE WORK	:	Construction of RO Plant and providing water supply in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
*REFERENCE	:	BBMP/EE(YNK.D)/W.O/68/2016-17 Dated: 04.05.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	05.11.2016
PERIOD OF TESTING	:	05.11.2016 to 07.11.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	30.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	160 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	485 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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VIDYARANI P.K.
Technical Manager

AE

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.02/KRIDL/CSR-11/186e/SAND-Gradation/2016-17 : 07.11.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	: Construction of RO Plant and providing water supply in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: BBMP/EE(YNK.D)/W.O/68/2016-17 Dated: 04.05.2016
Technical Reference	: IS : 2386 Part 1 - 1963 RA-2007
Sample ID	: Fine Aggregates
Sample Received on	: 05.11.2016
Date of Testing	: 07.11.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	95.50	90-100	90-100	90-100	95-100
2.36	75.00	60-95	75-100	85-100	95-100
1.18	53.20	30-70	55-90	75-100	90-100
600 Micron	23.00	15-34	35-59	60-79	80-100
300 Micron	11.80	5-20	8-30	12-40	15-50
150 Micron	4.80	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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VIDYARANI P.K.
Technical Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.02/KRIDL/CSR-11/186e/AGG/GR/2016-17 : 07.11.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	: Construction of RO Plant and providing water supply in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: BBMP/EE(YNK.D)/W.O/68/2016-17 Dated: 04.05.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm)
Sample Received on	: 05.11.2016
Date of Testing	: 07.11.2016

Total Wt. of Aggregates in gms= 5000

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	96.70	95-100	85-100
20	34.20	30-70	0-20
10	13.80	10-35	0-5
4.75	1.40	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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VIDYARANI P.K.
Technical Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.02/KRIDL /STEEL/2016-17 11.11.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer : **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of the Work : Construction of RO Plant and providing water supply in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.

Reference : BBMP/EE(YNK.D)/W.O/68/2016-17 Dated: 04.05.2016

Date of Test : 11.11.2016

Technical Reference : IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	8	0.40	510	552	13.10	O.K	O.K

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Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.02/KRIDL /STEEL/2016-17 11.11.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
Name of the Work	:	Construction of RO Plant and providing water supply in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	:	BBMP/EE(YNK.D)/W.O/68/2016-17 Dated: 04.05.2016
Date of Test	:	11.11.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	10	0.62	513	556	13.20	O.K	O.K

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Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

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Job No.: CTCE/BBMP/W.No.02/KRIDL /STEEL/2016-17 11.11.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer : **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of the Work : Construction of RO Plant and providing water supply in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.

Reference : BBMP/EE(YNK.D)/W.O/68/2016-17 Dated: 04.05.2016

Date of Test : 11.11.2016

Technical Reference : IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	12	0.89	515	558	13.35	O.K	O.K

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Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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T-2377

Job No.: CTCE/BBMP/W.No.02/KRIDL/CSR-11/186e/CC Solid Block/2016-17 : 16.11.2016

TEST REPORT ON SOLID CONCRETE BLOCKS

* Customer	: **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of the Work	: Construction of RO Plant and providing water supply in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: BBMP/EE(YNK.D)/W.O/68/2016-17 Dated: 04.05.2016
Sample Received on	: 11.11.2016
Date of Testing	: 16.11.2016
Size of Blocks	: 400mm x 200mm x 200mm
Cross Sectional Area	: 80000 mm^2
Technical Reference	: IS: 2185 (Part 1) - 2005
No. of Blocks Tested	: 08

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS 2185 (Part 1) - 2005
1	Block 1	34.35	262.5	3.28	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	36.35	263.2	3.29	
3	Block 3	35.18	260.1	3.25	
4	Block 4	34.92	262.4	3.28	
5	Block 5	35.62	263.2	3.29	
6	Block 6	36.38	264.5	3.31	
7	Block 7	35.78	263.5	3.29	
8	Block 8	36.35	263.2	3.29	

*Information is furnished by the Customer/Representative.

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VIDYARANI P.K.
Technical Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.02/KRIDL/CSR-11/186e/CUBE/2016-17

12.12.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* **Customer** : **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* **Agency** : **Technical Manager (West),** KRIDL, Bangalore.
* **Name of the work** : Construction of RO Plant and providing water supply in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
* **Reference** : BBMP/EE(YNK.D)/W.O/68/2016-17 Dated: 04.05.2016
* **Sample ID** : RCC Footing Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

* **Grade of Concrete** : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 12.12.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	14.11.2016	12.12.2016	8.138	489.3	21.75
2	14.11.2016	12.12.2016	8.290	507.5	22.56
3	14.11.2016	12.12.2016	8.335	528.9	23.51

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VIDYARANI P.K.
Technical Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.02/KRIDL/CSR-11/186e/CUBE/2016-17

22.12.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* **Customer** : **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* **Agency** : **Technical Manager (West),** KRIDL, Bangalore.
* **Name of the work** : Construction of RO Plant and providing water supply in Ward No.02 of Yelahanka Sub Division, BBMP, Bangalore.
* **Reference** : BBMP/EE(YNK.D)/W.O/68/2016-17 Dated: 04.05.2016
* **Sample ID** : RCC Plinth Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

* **Grade of Concrete** : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 22.12.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.11.2016	22.12.2016	8.182	478.3	21.26
2	24.11.2016	22.12.2016	8.206	490.2	21.79
3	24.11.2016	22.12.2016	8.382	506.3	22.50

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E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com